



MINISTRY OF NATIONAL EDUCATION AND RESEARCH  
**CONSTANTA MARITIME UNIVERSITY**  
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Information about the career promotion exam for the position of  
**„ Associate Professor”**  
Department of Electronics and Telecommunications,  
entry no. 9 in the job title list  
Faculty of Naval Electromechanics  
Constanta Maritime University

**a.) Description of position**

Full-time entry 9 in the Department of Electronics and Telecommunications, Faculty of Naval Electromechanics, Constanta Maritime University

*Academic Subjects in the curricula:*

- Analog and digital communications
- Transmission and receiving systems and equipment
- Software defined radio equipment
- Synthetic aperture radar systems
- Radio communication systems and equipment

**b) Tasks / Activities associated with the role**

*Teaching Load:* Related duties /activities

No.	Type of Activity	No. of conventional hours
1.	Teaching Activities, seminars, laboratory, projects	8 h /week
2.	Guidance for the elaboration of the Bachelor thesis, Master Thesis	2 h /week
3.	Research and Scholarly Activities enlisted in the Curricula	2 h /week
4.	Assessment Activities	2 h /week
5.	Tutoring, counseling, guidance of students' scientific groups, of students within the European Credit Transfer and Accumulation System	2 h /week
6.	Participation in councils and commissions in the interest of education, including admission and completion of studies committees	2 h /week
7.	Self-Study	10 h /week

### Research Load

No.	Type of Activity	No. of conventional hours
1.	Research Activities	12 h /week

### c.) Grid payroll / Associate professor

No.	Years of academic labor	Minimum wage for classification
1	0-3 years	-
2	3-5 years	4.485
3	5-10 years	4.620
4	10-15 years	4.973
5	15-20 years	5.338
6	20-25 years	5.956
7	25-30 years	6.561
8	30-35 years	6.636
9	35-40 years	6.783
10	Over 40 years	6.830

### d.) Calendar of the career promotion exam

- The application period will last 45 days from obtaining the approval from the Ministry of Education and Research (November 24, 2020 - January 8, 2021)
- The career promotion exam will take place within 45 days after the application period (January 24 - 31, 2021)
- The time and place of the compulsory career promotion exam represented by the public lecture will be announced on the web page of the career promotion exam at least **5 working days** before the exam.

### e.) Detailed syllabus and tutorial

#### • Analog and digital communications

No	Content
1.	General notions about communications
2.	Signals with linear modulation
3.	Generation of signals with linear modulation
4.	Demodulation of signals with linear modulation
5.	Signals with exponential modulation
6.	Generation of frequency modulated signals
7.	Demodulation of frequency modulated signals
8.	Transforming analog information into digital information. Pulse-amplitude modulation communication

#### Bibliography

No.	Authors	Title
1.	Ioan Constantin, Ion Marghescu	<i>Transmisiuni analogice și digitale</i> , Ed. Tehnică, București, 1995
2.	Victor Croitoru	<i>Comunicații digitale. Teorie și experiment</i> , Ediția a II -a, Ed. Printech, București, 2003

3.	Paul Cotae	<i>Teoria sistemelor de comunicații digitale</i> , Ed. "Gh. Asachi", Iași, 1998
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- **Transmission and receiving systems and equipment**

No	Content
1.	Modulation in digital mobile transceivers
2.	Radio receivers
3.	Radio transmitters
4.	Transceivers
5.	Methods for computing and measuring radio equipment parameters
6.	Radio link budget

#### Bibliography

No.	Authors	Title
1.	Paul Young	<i>Electronic Communication Circuits</i> , Prentice Hall, 2004
2.	Houda Labiod, Hossam Afifi, Constantino de Santis	<i>Wi-Fi, Bluetooth, Zigbee and WiMax</i> , Springer, 2007

- **Software defined radio equipment**

No.	Content
1.	General notions
2.	Analog section parameters
3.	The digital section
4.	Practical implementations

#### Bibliography

No.	Authors	Title
1.	Walter Tuttlebee	<i>Software Defined Radio - Enabling Technologies</i> , John Wiley & Sons, New York, 2002
2.	Tony Roupael	<i>RF and Digital Signal Processing for Software-Defined Radio</i> , Newnes, 2008

- **Synthetic aperture radar systems**

No.	Content
1.	Radar technology
2.	Synthetic aperture radar
3.	Advanced operating modes of SAR
4.	Development perspectives
5.	Related (GBSAR, GPR) and complementary (LIDAR) technologies

#### Bibliography

No.	Authors	Title
1.	C.F. Barnes	<i>Synthetic Aperture Radar</i> , Powder Springs, Georgia, 2015
2.	I.G.Cumming, F.H.Wong	<i>Digital Processing of Synthetic Aperture Radar Data: Algorithms and Implementation</i> , Artech House Remote Sensing Library, Norwood, MA, USA, 2005
3.	A. Moreira, P. Prats-Iraola, M. Younis, G. Krieger, I. Hajnsek, K. P. Papathanassiou	<i>A tutorial on synthetic aperture radar</i> , IEEE Geoscience and Remote Sensing Magazine, vol. 1, no. 1, pp. 6-43, Martie 2013

- **Radio communication systems and equipment**

No.	Content
1.	Signals used in radiocommunications
2.	The structure of a radiocommunication system
3.	Technical elements of radio links
4.	Antennas used in radiocommunications
5.	Radio transmitters
6.	Radio receivers
7.	Software defined radio

### **Bibliography**

No.	Authors	Title
1.	Dan Popa	<i>Radiocomunicații</i> , Ediția a II-a, Editura Nautica, Constanța, 2013
2.	Vlad Cehan	<i>Bazele radioemițătoarelor</i> , Editura Matrix Rom, București 1997
3.	A. Mihalcea, A. Șerbănescu, P. Tabarcea	<i>Sisteme moderne de comunicații</i> , Editura Militară, București, 1992

### **f.) Description of the career promotion exam procedure**

In order to enroll for the promotion exam for a teaching and research position, the candidate prepares a dossier containing at least the following documents:

- Application form, signed by the candidate, including an affidavit about the veracity of the information presented in the file;
- Proposal to develop the candidate's academic career in terms of teaching, in case of teaching positions and also in terms of scientific research; the proposal shall be made by the candidate, it includes no more than 10 pages and is one of the main criteria of selecting candidates;
- Curriculum vitae of the candidate, in printed and electronic form;
- List of candidate's works, in printed and electronic form;
- A sheet verifying the fulfillment of university standards of presentation in the competition, whose standard format is required by its own methodology. The verified sheet is completed and signed by the candidate;
- Documents which relate to the degree of doctor: legalized copy of the diploma of doctor and, if the original doctor's degree is not recognized in Romania, certificate of recognition or equivalence thereof;
- Summary of the thesis in Romanian and a foreign language, or, where applicable, habilitation thesis on no more than one page for each language;
- The candidate's affidavit indicating incompatibility situations stipulated by Law no. 1/2011 as they are for winning the competition or lack of such situations of incompatibility;
- Copies of other diplomas demonstrating the candidate's studies;
- Copy of identity card or, if the candidate does not have an identity card, passport or other identity document issued in an equivalent identity purpose;
- If the candidate has changed his name, copies of documents certifying the name change - marriage certificate or proof of name change;
- Maximum 10 publications, patents and other papers of the candidate, in electronic format, selected by him and considered to be most relevant for their professional achievements.

*Curriculum vitae of the candidate must include:*

- information about the studies and diplomas obtained;
- information on professional experience and relevant jobs;
- information about research and development projects which he led as project manager and grants obtained, if there are such projects or grants, indicating for each funding source, funding amount and the main resulting publications and patents;

d) information about the awards or other recognition of scientific contributions of the candidate.

*Full list of papers of the candidate will be as follows:*

- a) List of no more than 10 papers of the candidate to be most relevant for his professional achievements, which are included in the electronic file and can be found in other types of works under this article. For the post of professor, works list will specify which of the papers presented are carried out after obtaining the certificate of entitlement;
- b) The doctoral thesis or theses;
- c) Patents and other industrial property titles;
- d) Books and chapters in books;
- e) Articles/studies extensively published in international scientific journals in the main stream;
- f) In extenso publications, the main works published in international specialized conferences;
- g) other works and scientific contributions, as appropriate, in the field of artistic creation.

*Candidate's professional competence* is assessed by the exam commission based on the candidate dossier and, additionally, by one or more examination tests, including lectures, courses or other similar according to the university own methodology:

- a) for all posts for indefinite period, a test is represented by a public lecture at least 45 minutes in which the candidate presents the most significant previous professional accomplishments and the academic career development plan. A mandatory session of questions from the committee and from the assistance is included.
- b) The University announces on its website the contest date, time and place at least 5 working days before the test.

*Stages of the career promotion exam:*

*Stage I:* The assessment of the candidate's dossier.

*Stage II:* A Public Lecture of at least 45 minutes in which the candidate presents the most significant previous professional results and the university career development plan. This test must also include a question and answer session by the committee and the public.

#### **g.) The complete list of documents that candidates must include in the career promotion application dossier**

- a) Application form, signed by the candidate, including an affidavit about the veracity of the information presented in the file;
- b) Proposal to develop the candidate's academic career in terms of teaching, in case of teaching positions and also in terms of scientific research; the proposal shall be made by the candidate, it includes no more than 10 pages and is one of the main criteria of selecting candidates.
- c) Curriculum vitae of the candidate, in printed and electronic form;
- d) List of candidate's works, in printed and electronic form;
- e) A sheet verifying the fulfillment of university standards of presentation in the competition, whose standard format is required by its own methodology. The verified sheet is completed and signed by the candidate;
- f) Documents which relate to the degree of doctor: legalized copy of the diploma of doctor and, if the original doctor's degree is not recognized in Romania, certificate of recognition or equivalence thereof;
- g) Summary of the thesis in Romanian and a foreign language, or, where applicable, habilitation thesis on no more than one page for each language;
- h) The candidate's affidavit indicating incompatibility situations stipulated by Law no. 1/2011 as they are for winning the competition or lack of such situations of incompatibility;
- i) Copies of other diplomas demonstrating the candidate's studies;
- j) Copy of identity card or, if the candidate does not have an identity card, passport or other identity document issued in an equivalent identity purpose;

- k) If the candidate has changed his name, copies of documents certifying the name change - marriage certificate or proof of name change;
- l) Maximum 10 publications, patents and other papers of the candidate, in electronic format, selected by him and considered to be most relevant for their professional achievements.

**h.) The application dossier for the career promotion exam will be submitted to the address enclosed in the header.**

Dean of Naval Electromechanics Faculty:  
Assoc. Prof. Liviu Stan, PhD.

Head of department:  
Prof. Răzvan Tamaş, PhD.